

From Home-Cooked to Fast-Food: The Changing Food Habits in India

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In recent decades, India has experienced a significant shift in food habits, moving away from traditional, home-cooked meals to more modern, convenience-driven options. Historically, Indian diets were rich in fresh, seasonal, and locally sourced ingredients, with a strong emphasis on vegetables, grains, legumes, and spices, many of which were prepared with time-honored cooking methods.

However, as urbanization, globalization, and changing lifestyles have taken hold, especially in major cities, the Indian diet has become increasingly influenced by processed and fast foods. The rise of fast-food chains, packaged snacks, sugary drinks, and ready-to-eat meals has led to the rapid adoption of convenience foods, particularly among the younger population. This shift has been driven by factors like busy work schedules, a growing middle class, and the allure of Western food culture.

While modern foods offer convenience, they often come with high levels of salt, sugar, unhealthy fats, and preservatives, which are now associated with rising health concerns such as obesity, diabetes, and gut-related issues. As more people embrace these new food habits, there is growing concern about the impact on traditional dietary practices and their effect on public health. A poor-quality diet lacking in nutrients can disrupt the balance of the gut microbiome, leading to digestive issues and inflammation. Healthy soil is home to a wide variety of microorganisms, including bacteria, fungi, and other microbes that contribute to plant health.

Studies have consistently found that organic foods tend to have higher levels of antioxidants, including polyphenols, flavonoids, and carotenoids. These compounds are important for reducing oxidative stress and inflammation, both of which can influence gut health and the balance of the gut microbiome. A study published in the *British Journal of Nutrition* found that organic crops had significantly higher levels of antioxidants (around 20-40%) than conventionally grown crops. (Barański, M., 2017). Polyphenols, found abundantly in organic fruits and vegetables, act as **prebiotics**—substances that feed beneficial gut bacteria. Research suggests that a higher intake of polyphenol-rich foods promotes gut microbial diversity,

which is crucial for maintaining a healthy microbiome. A study in *Nutrients* (Bohn, T., 2020) confirmed that diets rich in polyphenols help increase the abundance of beneficial bacteria, like *Bifidobacterium* and *Lactobacillus*, which are associated with improved digestion and immune function. Research has demonstrated that the microbial diversity in soil directly affects the nutrient profile of crops, including the types of fibers and antioxidants present. One study published in *Frontiers in Microbiology* (Doring, M., Kahl, J., & Knapp, M. 2021) found that organic farming methods enriched the microbial diversity in soil, which in turn promoted the growth of beneficial gut bacteria when the crops were consumed. This contrasts with conventional farming, where monoculture and the use of synthetic fertilizers can deplete soil microbial diversity, leading to less nutrient-rich food and potentially fewer prebiotics for gut bacteria. A study published in *Environmental Health Perspectives* (Bergstrom, L 2014) found that individuals who consumed organic food regularly had lower levels of inflammatory markers in their blood, which is associated with improved gut health and reduced risks of diseases like Crohn's disease, ulcerative colitis, and other inflammatory conditions.

What Are Processed Foods?

Processed foods are foods that have been altered from their original, natural state through various methods to enhance flavor, preserve shelf life, or make them more convenient for consumption. The level of processing can vary significantly, from basic procedures like washing and chopping to more complex processes involving the addition of preservatives, flavorings, colors, and other additives. Processed foods can broadly be categorized into three types based on the extent of their processing:

Minimally Processed Foods

These foods are simply altered in ways that do not significantly change their nutritional value. Examples include:

- Fresh-cut vegetables or fruits (washed and chopped)
- Frozen vegetables or fruits (without added ingredients)
- Canned vegetables (with or without salt)

1. **Moderately Processed Foods:** These foods undergo more intensive processing and often contain added ingredients like sweeteners, preservatives, or stabilizers. Examples include:
 - Canned soups or stews
 - Pre-packaged meals or frozen dinners
 - Cheese or yogurt that has added flavors or thickeners
2. **Highly Processed or Ultra-Processed Foods:** These foods are made using a series of industrial processes and often contain ingredients that are not commonly found in home kitchens, such as artificial flavors, colors, preservatives, and sweeteners. These foods are often designed to be convenient, long-lasting, and ready-to-eat. Examples include:
 - Snack foods (chips, cookies, crackers)
 - Soda or sugary beverages
 - Instant noodles
 - Fast food items (burgers, fried chicken, etc.)
 - Processed meats (sausages, hot dogs, salami)
 - Breakfast cereals

Why Are They Called "Processed Foods"?

The term "processed" refers to the alteration of a food's natural state during its production, packaging, or preservation. Processing is done for several reasons, but it generally involves the following:

1. **Preservation:** Many foods are processed to extend their shelf life. This is done through methods like canning, freezing, drying, pickling, and pasteurization. The goal is to prevent spoilage, making the food safe to eat over an extended period.
2. **Convenience:** Processed foods are designed to make eating more convenient and time-saving. Ready-to-eat meals, pre-cooked or frozen foods, and snack foods that require little preparation are examples of this.
3. **Enhancement of Flavor, Texture, and Appearance:** Processing can enhance the taste, texture, and visual appeal of foods. This can include adding artificial flavorings, colors, and preservatives to make the food more appetizing, consistent, and longer-lasting.

4. **Fortification and Enrichment:** Some processed foods are fortified with additional nutrients, such as vitamins or minerals, to improve their nutritional profile. For example, breakfast cereals are often fortified with iron, vitamin D, and B vitamins.
5. **Safety and Consistency:** Food processing can make food safer by eliminating or reducing harmful bacteria and pathogens (for example, pasteurization of dairy). Processing can also help standardize the product, ensuring that each batch has the same taste, texture, and appearance.

Key Features of Processed Foods

- **Added Ingredients:** Processed foods typically contain added ingredients like preservatives, artificial sweeteners, flavor enhancers, colors, and thickening agents. These ingredients are used to improve the taste, extend shelf life, and alter the texture of the food.
- **Loss of Nutrients:** While processing can preserve some nutrients, it may also result in the loss of beneficial compounds, such as fiber, vitamins, and minerals. Highly processed foods, in particular, may be lower in these essential nutrients and higher in sodium, sugars, and unhealthy fats.
- **Packaging:** Processed foods are often packaged in a way that makes them easy to transport and store. The packaging may also provide information about the food's nutritional content, ingredients, and shelf life.

How to make processed food more nutritious?

1. Increase Fibre Content: Fiber is one of the most important nutrients for promoting gut health, as it serves as prebiotic food for beneficial gut bacteria. To improve the fiber content of processed foods

2. Incorporate Probiotics

Probiotics are live beneficial bacteria that can improve gut health by increasing the number of healthy microbes in the intestines. Many processed foods can be fortified with probiotics or naturally contain them. Choose processed foods that have been fortified with probiotics such as certain yogurts, fermented beverages (e.g., kefir), or probiotic-fortified snacks. Look for labels that specify live and active cultures. Add fermented ingredients (such as kimchi, sauerkraut, miso, tempeh, and pickles) to processed foods to

naturally boost probiotic content. For instance, mix fermented veggies into salads or sandwiches, or add miso to soups and sauces.

3. Reduce Added Sugars and Unhealthy Fats

Excessive intake of added sugars and unhealthy fats (like trans fats or highly refined vegetable oils) can negatively affect gut health by promoting dysbiosis (imbalance in gut bacteria). To make processed foods healthier for your gut.

- **Choose Low-Sugar Alternatives:** Look for processed foods with minimal added sugars. Many snack foods, breakfast cereals, and beverages contain high amounts of sugar, which can feed harmful gut bacteria. Opt for unsweetened versions of foods like yogurt, beverages, and cereals.
- **Use Healthier Fats:** Replace processed oils (e.g., soybean, sunflower, or palm oil) with healthier options such as olive oil, avocado oil, or coconut oil, which are less likely to harm gut microbiota and offer anti-inflammatory benefits.

4. Incorporate Anti-Inflammatory Ingredients

Chronic inflammation in the gut can disrupt the balance of beneficial gut bacteria, leading to a variety of health issues. By including anti-inflammatory ingredients, you can make processed foods more gut-friendly. Turmeric and Ginger, these spices contain curcumin and gingerol, compounds with powerful anti-inflammatory effects that support gut health. Adding turmeric or ginger to processed foods like soups, smoothies, or curries can help reduce inflammation. Polyphenols are antioxidant compounds that help fight inflammation and support gut health by encouraging the growth of beneficial microbes. Foods rich in polyphenols, such as berries (e.g., blueberries, strawberries), dark chocolate, green tea, and nuts (e.g., almonds, walnuts)

5. Add Plant-Based Proteins

Incorporating plant-based proteins into processed foods can be a great way to make them more nutritious and easier on the gut. These proteins are typically gentler on digestion and come with additional health benefits like fiber and micronutrients. Add more lentils, chickpeas, beans, and peas to processed meals such as soups, stews, or canned chili. These plant-based proteins are high in fiber and prebiotics, which promote the growth of healthy gut bacteria. Incorporate

more nuts (e.g., almonds, cashews) and seeds (e.g., chia, flax) into processed snack foods or granola. These not only provide healthy fats and proteins but also promote gut microbiome health.

6. Nuts and Seeds: Limit Artificial Additives and Preservatives. Some artificial sweeteners (like aspartame and sucralose) can negatively affect gut bacteria, potentially leading to digestive issues. Avoid highly processed foods that contain artificial colors and flavorings, which can harm gut bacteria and may contribute to inflammation. Instead, opt for foods with natural flavorings like vanilla, cinnamon, or cocoa

7. Fortify with Micronutrients and Antioxidants

A nutrient-dense diet supports overall health and a balanced gut microbiome. Many processed foods lack adequate micronutrients, so fortifying them can be beneficial:

- **Vitamin D:** Vitamin D plays a key role in immune function and gut health. Choose processed foods that are fortified with vitamin D, like fortified dairy or plant-based milks, cereals, or snacks.
- **Magnesium:** Magnesium supports digestive health and the functioning of the gut muscles. Opt for processed foods enriched with magnesium (like fortified cereals or snack bars).

Opt for Minimal Processing or Homemade Versions

Where possible, opt for homemade processed foods or minimally processed versions. Making your own meals from scratch using whole foods and minimal additives gives you control over the ingredients, allowing you to make more gut-friendly choices.

9. Use Healthy Cooking Methods

The way food is prepared can also affect its impact on gut health. Steaming or Boiling instead of frying, steaming or boiling helps preserve nutrients like vitamins and fiber. Roasting and Baking with healthy fats like olive oil, instead of deep-frying.

Conclusion

To make processed foods more nutritious and supportive of gut health, focus on adding fiber, incorporating probiotics, reducing harmful ingredients (like added sugars and unhealthy fats), and including anti-inflammatory and nutrient-dense foods. Opt for natural, minimally processed versions when possible, and make small adjustments to improve the nutritional quality of your favorite processed foods.

References

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